Before the
Federal Communications Commission
Washington, D.C.

DEC 23 1995

In the Matter of:

Routine Licensing of Large Numbers of Small Antenna Earth Stations Operating in the Ka-Band	)))	FCC File No. _____

To: Federal Communications Commission

Petition
for Rulemaking

Lockheed Martin Corporation ("Lockheed Martin"), AT&T Corp. ("AT&T"), Hughes Communications, Inc. ("Hughes"), Loral Space & Communications, Ltd. ("Loral") and GE American Communications, Inc. ("GE") (collectively, the "Petitioners"), pursuant to Section 1.401 of the Rules and Regulations ("Rules") of the Federal Communications Commission ("Commission") (47 C.F.R. § 1.401), herein petition the Commission to institute a Rulemaking Proceeding to revise Part 25 of the Commission's Rules (47 C.F.R. § 25.101) in order to provide for the routine licensing of large numbers of small antenna earth stations operating in the "28 GHz Band" or "Ka-Band" (this refers to the 27.5-30.0 GHz uplink frequency band) in the Geostationary Orbit/Fixed Satellite Service ("GSO/FSS"). In support of this request, the Petitioners herein provide as follows:

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I.

1. On July 22, 1996, the Commission released its First Report and Order and Fourth Notice of Proposed Rulemaking ("First Report") in its 28 GHz Proceeding, which proceeding was initiated in 1992 (FCC 96-311, released July 22, 1996 in CC Docket No. 92-297; 3 CR 857, 61 FR 39425, 61 FR 44177 , 1996 Lexis 3867 (1996)) ("28 GHz Proceeding"). In the First Report, the Commission designated band segments in the 28 GHz band for use by certain types of wireless systems, clearing the way for the licensing of GSO/FSS systems, among others, in this band. In adopting its First Report, the Commission noted that the band segmentation plan being adopted would permit the "rapid development of the largest contiguous spectrum segments available" for new services and, as such, would "promote competition by permitting proposed services to develop and offer innovative consumer services, such as video program distribution, two-way interactive video, teleconferencing, telemedicine, telecommuting and high speed data services within our borders and around the globe." (First Report 61 FR 44177, 44178 (1996)).

2. On May 6, 1996, the Commission released its International Orbital Assignment Order ("Assignment Order") assigning orbital locations to applicants proposing to provide GSO/FSS services in the Ka-Band. (In Re: Assignment Order, adopted May 6, 1996 (1996 Lexis 2343) (1996)). In adopting this Assignment Order, the Commission noted that its action "was the first step in promoting the use of this new frequency band for commercial satellite usage." (Assignment Order at 2344).

3. The Petitioners, among others, were applicants for, and have received certain orbital assignments for, the Ka-Band; in addition, they were participants in, and

will operate in accordance with, the 28 GHz Proceeding. The Petitioners, in brief, have fully supported the development of this band and its early commercial use.

II.

4. In order to insure the rapid and successful implementation of new GSO/FSS Ka-Band (i.e., 28 GHz Band) systems approved (and to be approved) by the Commission and in order to insure that the new and innovative services promised by these systems are made available to the public, attention must be given at the earliest opportunity to blanket licensing of Ka-Band transceivers. The Petitioners estimate that, in part because of the interactive, two-way services that Ka-Band GSO/FSS systems will support, tens of millions of Ka-Band transceivers will exist globally by the year 2007. Even at significantly lower volumes, such transceivers will be mass-marketed as wireline and wireless telephones are today, and the individual licensing of such transceivers will delay service, burden the resources of regulatory bodies and increase consumer costs.

5. The use of "blanket licensing" (i.e., routine licensing of large numbers of small antenna earth stations) has proven successful in the past in similar applications by the Commission. Part 25 of the Commission's Rules, for example, now permits routine licensing of certain Very Small Aperture Terminal ("VSAT") stations in the 12/14 GHz band (47 C.F.R. δ 25.134; See; Declaratory Order in the Matter of Routine Licensing of Large Networks of Small Antenna Earth Stations Operating in the 12 GHz and 14 GHz Bands, 51 FR 15067 (April 22, 1986) and Declaratory Order in the Matter of Routine Licensing of Large Networks of Small Antenna Earth Stations Operating in the 6 GHz and 14 GHz Bands, 2 FCC Rcd 2149 (1987); See also, In Re Application of Rockwell

International Corporation for Blanket Licensing Authority, 7 FCC Rcd 942 (1992) as modified in 10 FCC Rcd 10924 (1995) and In Re Application of American Mobile Satellite Corporation for Blanket Licensing Authority, 8 FCC Rcd 6310 (1993) as modified in 10 FCC Rcd 10952 (1995)).

III.

6. The various portions of the Ka-Band that the Petitioners submit are appropriate for blanket licensing are set forth in the following sub-sections, along with supporting considerations:

7. The 19.7-20.2 GHz and 29.5-30.0 GHz Bands.

The 19.7-20.2 and 29.5-30.0 GHz Bands have been allocated to GSO/FSS systems on an exclusive Primary basis within the U.S. In addition, internationally, the ITU Table of Frequency Allocations excludes any allocation in these bands to any terrestrial Fixed Services ("FS"), including in those regions and administrations that are adjacent to the U.S., such as Canada and Mexico. Within the U.S., therefore, Ka-Band transceivers operating within these bands will need to share and coordinate only with other Ka-Band GSO/FSS satellite systems and Ka-Band transceivers. No sharing and coordination between these transceivers and any terrestrial FS systems or Non-Geostationary Orbit ("NGSO") systems will be required. The Petitioners have set forth in Exhibit A hereto a proposed Part 25 rule format designed to address sharing and coordination between the various GSO/FSS satellite systems operating in these bands for blanket licensing purposes. Exhibit A, patterned after that adopted by the Commission for Ku-Band systems (47 C.F.R. § 25.107), is presented only as an example of a possible

approach, not as a preferred approach, to the presentation of sharing criteria, and without prejudice to other approaches. To expedite the development of the proposed Exhibit A criteria set forth in this sub-section, the Petitioners recommend and support the establishment of an informal Industry Working Group, composed of the affected GSO/FSS applicants and licensees, to review and recommend appropriate and acceptable licensing criteria for application to their systems and for inclusion in a forthcoming Notice of Proposed Rulemaking.

8. The 28.35-28.6 GHz Band.

The 28.35-28.6 GHz Band has been allocated within the United States in an identical fashion to the 19.7-20.2 GHz and GHz 29.5-30.0 GHz Bands, as set forth above. All have a Primary allocation exclusive for GSO/FSS systems. Unlike the 19.7-20.2 GHz and 29.5-30.0 GHz Bands, however, the 28.35-28.6 GHz Band is also shared internationally on a Co-primary basis with terrestrial FS systems in Mexico and Canada. This will require that Ka-Band transceivers operating in this band within the U.S., but near U.S. national borders, coordinate with FS systems of the adjacent administration, either Mexico or Canada. The blanket licensing criteria for the 28.35-28.6 GHz Band will therefore need to include additional elements to accommodate this potential FS coordination beyond those GSO/FSS sharing elements to be developed in Exhibit A.

9. The Petitioners envision a possible set of criteria consisting of three elements. First, if the Ka-Band transceivers operating in this band were to be located more than a certain distance from the U.S. border, e.g., 10 miles, then no additional criteria beyond that to be established in Exhibit A would be required. Second, for those Ka-Band transceivers located closer than this distance to the U.S. border, such

transceivers would need to limit their horizontally radiated energy to a certain power flux density ("PFD") at the U.S. border. Third, those transceivers that may need to exceed this PFD limit could achieve concessions to the PFD limit through successful service coordination with affected terrestrial FS licensees in Mexico or Canada.

10. The 29.25-29.5 GHz Band.

The 29.25-29.5 GHz Band has been allocated in the U.S. on a Co-primary basis to both the GSO/FSS systems and to the Non-Geostationary Orbit/Mobile Satellite Service ("NGSO/MSS") for feeder-link operation, subject to sharing principles as specified in the 28 GHz Proceeding First Report (First Report, 61 FR 44177, 44178 (1996)). Thus, blanket licensing can be implemented in this 29.25-29.5 GHz Band by adding the GSO/FSS - NGSO/MSS sharing principles from the First Report to the criteria established in Exhibit A. For example, blanket licensees would be required (i) to meet the earth station criteria to be developed and implemented in Exhibit A, and (ii) to coordinate, or rather to demonstrate successful coordination, with individual current NGSO/MSS licensees in the 29.25-29.5 GHz Band.

* * * * * *

11. Based on the foregoing, the Petitioners believe that blanket licensing in the 19.7-20.2 GHz, 28.35-28.6 GHz and 29.25-30.0 GHz Bands is both feasible and essential. In summary, to simplify end users' efforts to obtain and operate wireless customer premise equipment associated with GSO/FSS networks in the Ka-Band, to eliminate the delays inherent in individual licensing and to set the stage for the blanket licensing efforts

of other international administrations, the Petitioners support the rapid adoption of U.S. blanket licensing procedures for these bands.

IV.

12. The 17.7-18.8 GHz Band Issues.

As stated in the First Report (First Report at 44178), the Commission expects that GSO/FSS systems will be able to use the 17.7-18.8 GHz Band for some downlink operations on a shared, co-primary basis with the Fixed Services ("FS") also operating in this band. The Petitioners believe that further development of sharing criteria between the GSO/FSS and FS services in this band will facilitate the most efficient usage of this band by both services.[1] Further, the licensing and registration process for GSO/FSS earth stations using the 17.7-18.8 GHz Band needs to be further developed to afford the GSO/FSS earth stations an appropriate level of protection.[2] While the Petitioners support the development and adoption of sharing criteria and of licensing and registration procedures to offer protection for GSO/FSS earth stations and FS services operating in the 17.7-18.8 GHz Band, they recognize that the issues presented are unique to this band and will affect a broad group. Therefore, the Petitioners recommend that separate proceedings be initiated to deal with these issues.

[1] These sharing criteria would provide a reasonable level of interference protection to the FSS Ka-Band transceivers and allow for efficient implementation of the "first-come-first-served" principle that applies to co-primary FS and FSS sharing.

[2] The large number of Ka-Band transceivers planned for deployment will likely necessitate modifications to the license registration process to enhance speed and effectiveness. Automatic or electronic registration processes should be considered.

V.

Conclusion

13. The Petitioners respectfully request that the Commission institute a Rulemaking Proceeding to establish blanket licensing procedures and criteria for Ka-Band transceivers in the 19.7-20.2 GHz, 28.35-28.6 GHz and 29.25-30.0 GHz Bands under Part 25 of its Rules. To the extent that the conclusion of such a Rulemaking could be assisted and expedited through the establishment of an informal Industry Working Group of GSO/FSS applicants and licensees working under the Commission's auspices, which would review and recommend appropriate licensing criteria and coordination conditions between their Systems, the Petitioners also request that the establishment of such a forum be given early consideration, preferably with the "Public Notice" of this Petition.

Respectfully submitted,

GE American Communications, Inc.

Hughes Communications Inc.
Edward J. Fitzpatrick, Vice President

AT&T Corp.

Lockheed Martin Corporation

Loral Space and Communications, Ltd.

December 19, 1996

Attachment A
Certificate of Service

Respectfully submitted,

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December 20, 1996

Exhibit A
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December 20, 1996

Exhibit A
List of Counsel

EXHIBIT A

25.138 Licensing provisions for Ka-Band transceiver earth stations in the geostationary fixed-satellite service operating in the 19.7-20.2, 28.35-28.6 and 29.25-30.0 GHz Bands:

a) All applications for a blanket earth station license in the geostationary fixed-satellite service for digital transceivers operating in the 19.7-20.2, 28.35-28.6 and 29.25-30.0 GHz Bands with maximum satellite downlink power densities of [TBD] and maximum transmit earth station antenna input power densities of [TBD] will be processed routinely so long as they include the following information:

(i) a general narrative statement describing the applicant and overall system operation, including Form 430;

(ii) a Form 403 and associated technical specifications for each large (i.e., [TBD] meters or more in diameter) earth station;

(iii) one Form 403 and associated technical specifications for each representative type of small (i.e., diameter of less than [TBD] meters) earth station;

(iv) designation of a point of contact to maintain quantity and types of earth stations manufactured, sold and deployed; and

(v) description of a safety interlock system if remote control authority is requested.

b) To be routinely authorized, a "hub" network authorized on a blanket basis in these bands must not exceed the following parameters:

(i) for the inbound uplink, power density of [TBD] into a [TBD] meter earth station and a gross bit rate of [TBD]; and

(ii) for the outbound link, a maximum satellite carrier EIRP density of [TBD], gross bit rate of [TBD] ; and

c) The term of such blanket earth station license shall be [TBD].

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